



PRIVATE-PUBLIC PARTNERSHIP:

Grade Crossing Corridors



Louisiana Strategic Highway Safety Plan

Transportation Safety Summit
ZERO: Let's Make it Happen
October 21, 2015
Crowne Plaza
Baton Rouge, Louisiana

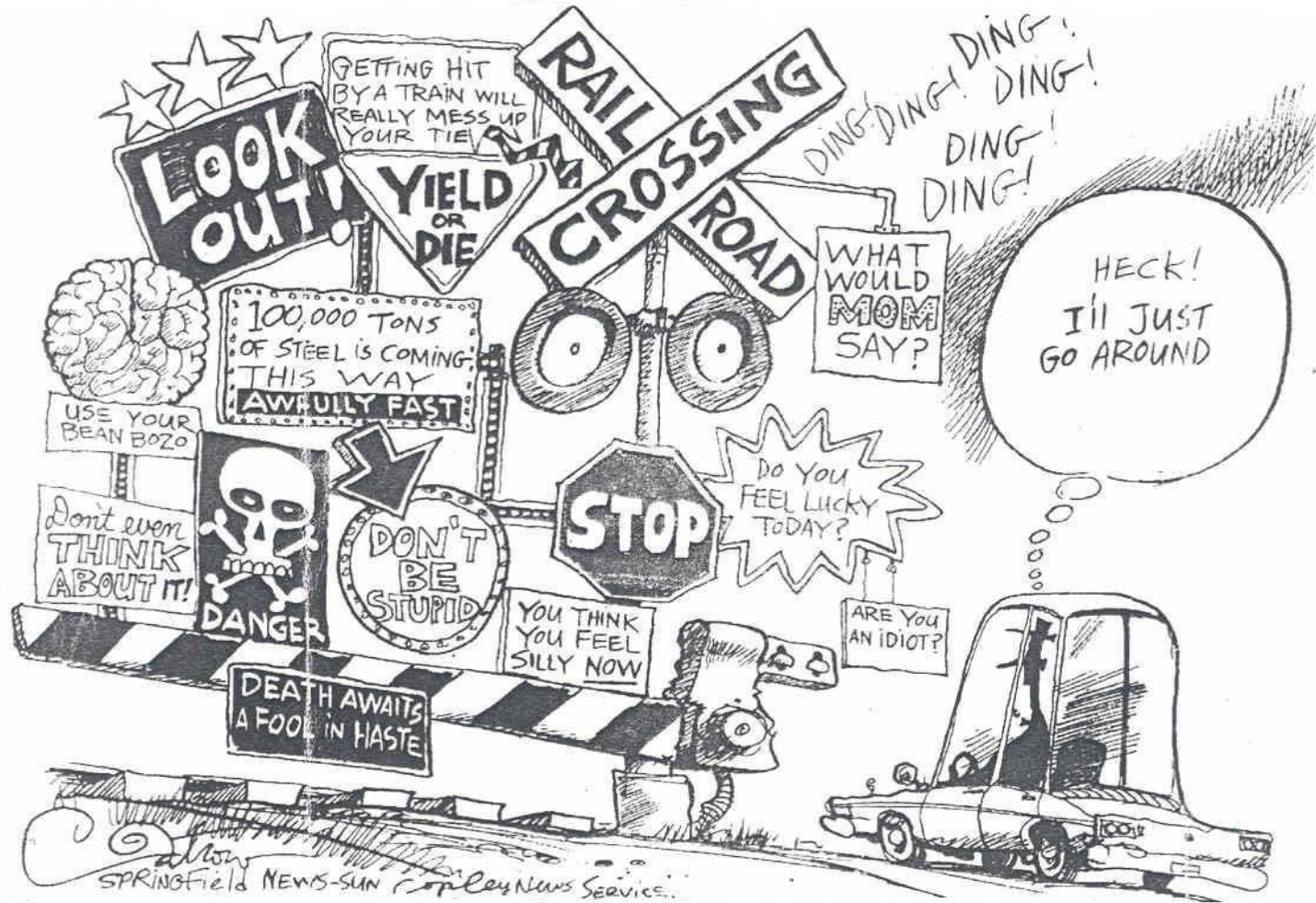
Signalizing Railroad Crossings

The information contained in this presentation is provided to give participants a general overview of the signalization of highway-rail grade crossings.

Because of the large number of significant variables to be considered, no single standard system of traffic control devices is universally applicable for all highway-rail grade crossings.

Appropriate engineering determinations should be made on an individual basis.

Grade Crossing Safety



SPRINGFIELD NEWS-SUN Copley News Service.

Items of Discussion

- Signal Project Personnel
- Corridor Approach
- Signal Modification Process
- What Works Well
- Opportunities for Improvement
- Alternatives
- Open Discussion



Warning Devices

- Highway-Rail Grade Crossing **WARNING DEVICES** (not crossing protection)
- Traffic Control Devices give road users advance notice of the approach or presence of rail traffic
- Authorization for modification of warning devices is obtained from the highway agency with the jurisdictional and/or statutory authority

Personnel

- Road Authority
- Manager, Grade Crossing Safety
- Administrator, Grade Crossing Program
- Manager, Crossing Signal Engineering
- NS Highway Crossing Engineer
- NS Contracted Vendors
- NS Construction
- Public Projects Engineer
- Diagnostic Review Team
- Elected Officials
- Other Parties of Interest



NS Overview

Route miles: 20,000

**Number of States: 22 and
the District of Columbia**

**Approximate number of
active crossings: 10,000**

**Approximate number of
passive crossings: 20,000**



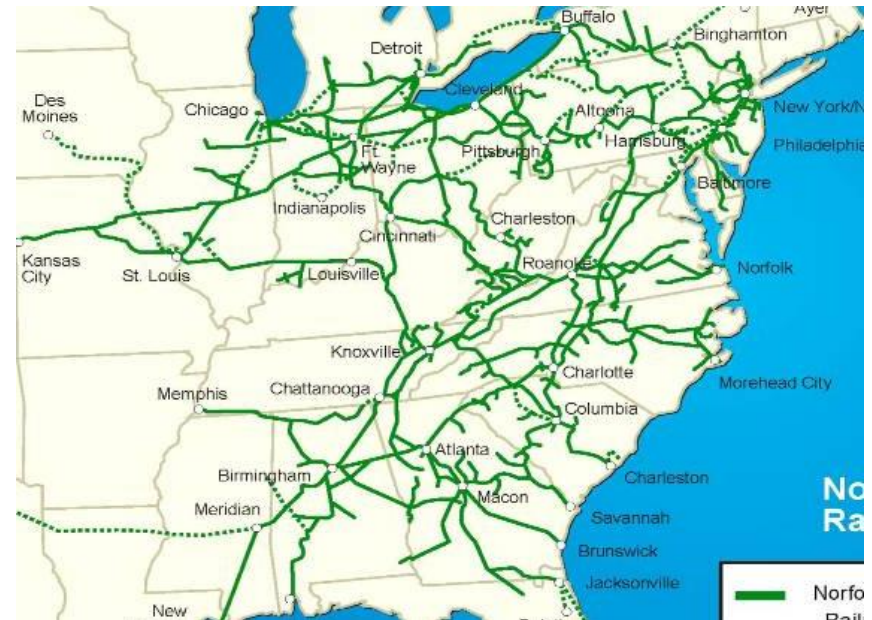
NS Overview

**Approximate number of
active warning device
projects: 350**

Public: 340

Private: 10

**Private-Public
Partnerships: 89**



NS Private-Public Partnership Overview

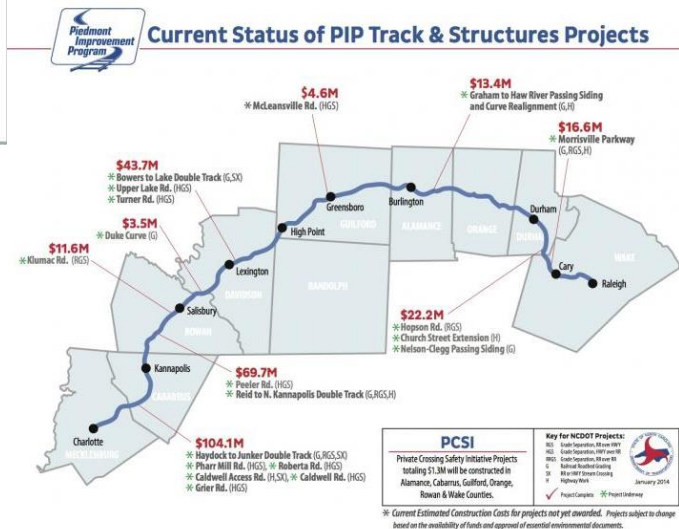
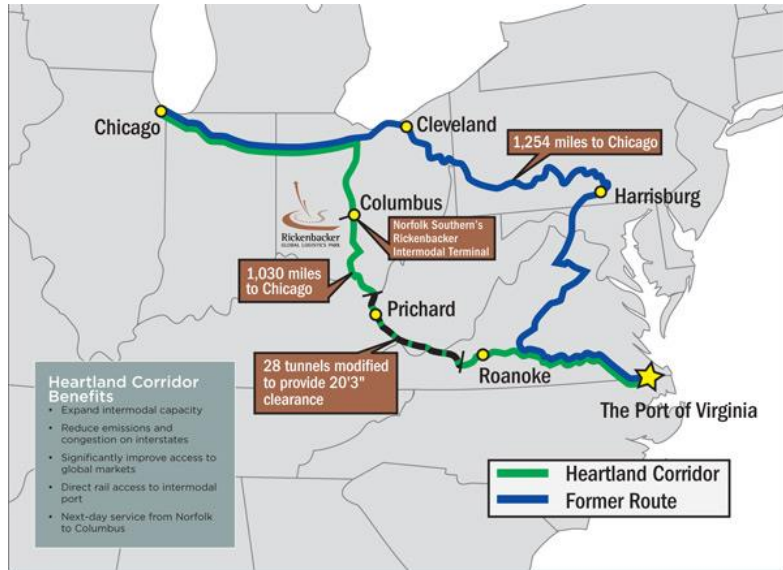
- Grade Crossing Warning Devices
 - System Safety
 - concept calls for a risk management strategy based on identification, analysis of hazards and application of remedial controls using a systems-based approach
 - Corridor Approach
 - Cumulatively review a segment of crossings vs. single crossings

How Corridors Are Determined

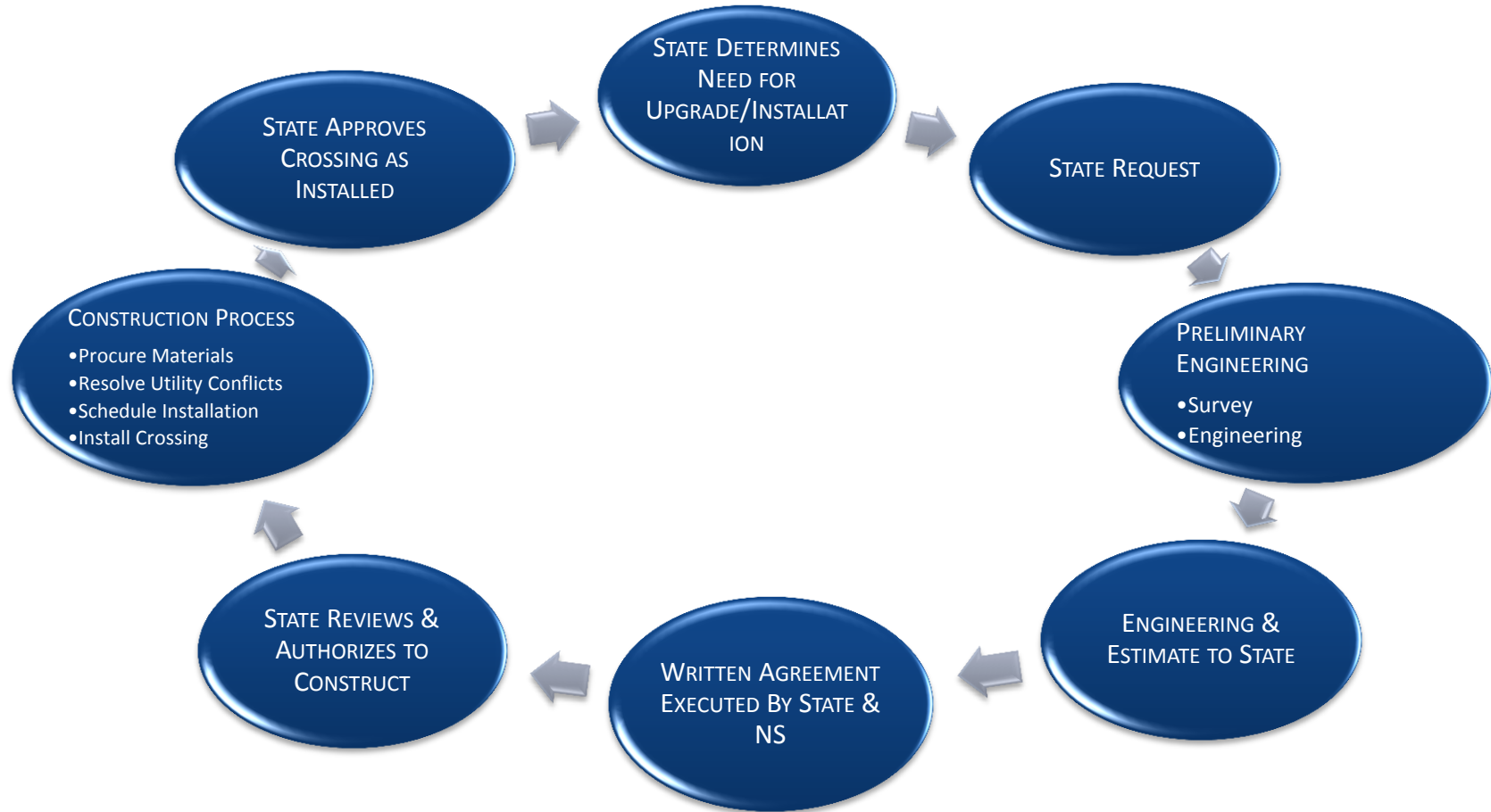
- Additional Crossings Affected by a Section 130 Crossing
- Rail Corridor Projects
- Railroad Speed Increases
- Increased Rail Traffic
- Crossing Closure Reports
- State Strategic Planning
- Local Road Authority Strategic Planning
- Process of Elimination



Rail Corridor Project Examples



Crossing Installation Process



Project Request

- Initiated by road authority
- Preliminary Engineering Agreement may or may not be required
- Factors considered by road authority
 - Volume of vehicular traffic
 - Volume of railroad traffic
 - Speed of vehicular traffic
 - Speed of railroad traffic
 - Volume of pedestrian traffic
 - Collision record
 - Sight distance restrictions



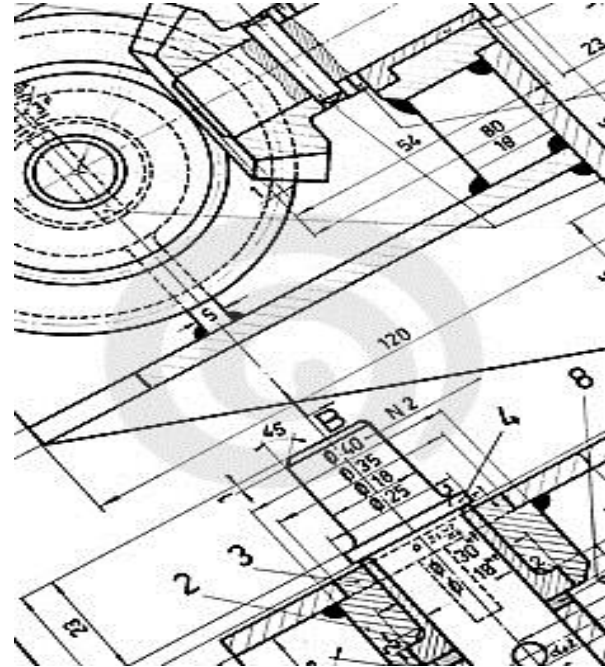
Diagnostic Review

- Onsite review of crossing to evaluate need for crossing and/or warning device modification
- Consist of road authority, railroad, and other parties of interest
- Identify potential closures
- Makes recommendations for crossing safety modifications
- Norfolk Southern Representative is typically a Signals Supervisor
- Recognize potential challenges



Preliminary Engineering

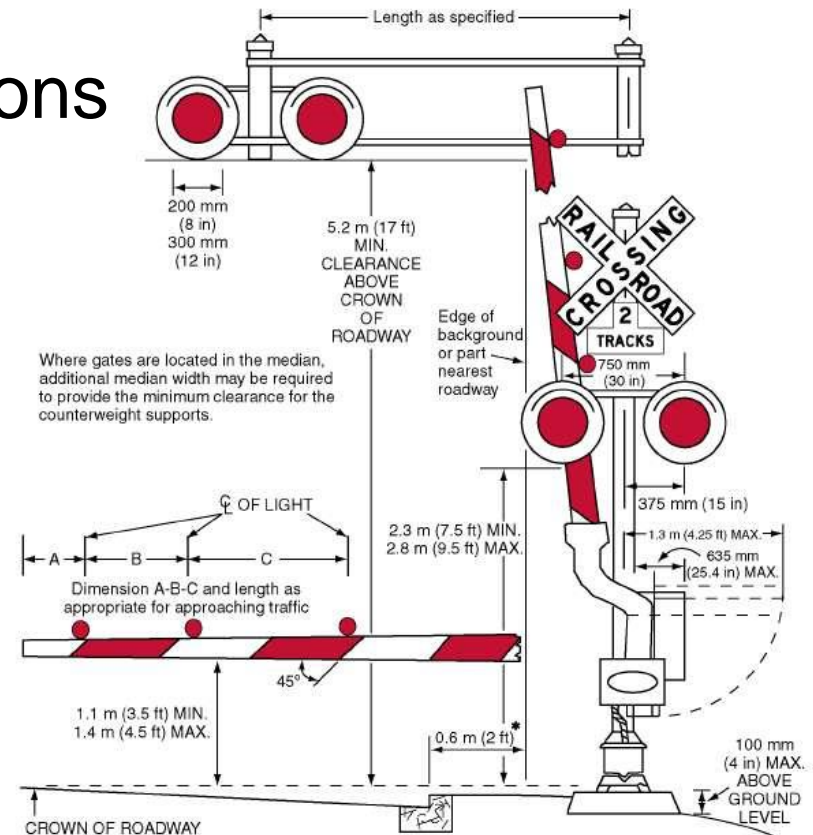
- Right of Way Research
- Train Count Verification
- Crossing Site Survey
- Layout Proposal
- Detailed Design Plans
- Detailed Cost Estimates
- Plan Submittal to Sponsor



NS sets internal installation goals for crossing signal preliminary engineering time

Design Considerations

- Roadway layout
- Nearby roadway intersections
- Right of way constraints
- Train speed & frequency
- Interconnections
- Wayside signals
- Adjacent crossings
- Requested warning time



Additional Steps

- Road authority review
- Additional/Miscellaneous Reviews
- Plan Revisions
- Agreement Execution
- Construction Authorization



Construction

- Procure Materials
- Resolve Utility Conflicts
- Resolve Right of Way Issues
- Schedule Installation
- Notify Sponsor of Start Date
- Install Warning Devices
 - “One Stop Shop”

NS sets internal installation goals for crossing signal installation time



What Works Well

- Increased Support of Road Authority through Closure Process
- Increased Closure Opportunities
- Reduced Costs to Taxpayers
 - “BOGO”
- Process Standardization
- Master Agreements
- Periodic Project Status Meetings/Conference Calls
- Economies of Scale



Opportunities for Improvement

- Public's willingness to close crossings
- Politics
- Process standardization
- Utility Conflicts
- Manpower
- Project review prior to authorization to incur costs
- Coordination with local road authority
 - Sidewalk, culvert, quiet zone implementation



Alternatives to Signaling

BEST TYPE OF CROSSING = NO CROSSING

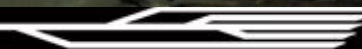




AND NO CROSSINGS = ????



Questions?



NS NORFOLK
SOUTHERN

One line, infinite possibilities.



THANK YOU

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NS' vision is to "be the safest, most customer-focused, and successful transportation company in the world."